

BLM & Forest Service Joint Public Meeting

September 2, 2010

Grand Mesa, Uncompahgre and Gunnison National Forests'

COC-73584 Geothermal Lease Nomination

Proposed Action Details

Proposed Action (Consent to Lease with Stipulations)

The Forest Service proposed action is to consent to the BLM leasing the subject lands (Figure 1) by competitive bid for subsequent geothermal resource development with stipulations (Table 1) for the protection of surface resources.

The BLM proposed action is to: 1) offer the nominated lands for lease with existing and additional stipulations; and 2) amend the Resource Management Plan (RMP) to include the additional stipulations necessary for resource protection. These additional stipulations include a lease notice for protection of elk winter concentration areas, No Surface Occupancy (NSO) stipulations for gullies and steep slopes, geologic hazards, and riparian areas consistent with Forest Service stipulations, and Controlled Surface Use (CSU) stipulations for protection of geothermal features and senior water rights consistent with Forest Service stipulations.

The Proposed Action is related to leasing the subject lands only, and does not contemplate or allow any surface disturbing activities.

Lease stipulations are major or moderate constraints applied to a new lease. A lease stipulation is a condition of lease issuance that provides a level of protection for other resource values or land uses by restricting lease operations during certain times or at certain locations or by mitigating unacceptable impacts, to an extent greater than standard lease terms or conditions. A stipulation is an enforceable term of the lease contract, and is attached to and made part of the lease. BLM can add additional stipulations to the lease during their review. Stipulations may be more restrictive than those in the Programmatic EIS if supported by LRMP, conservation plans, or other direction. The Proposed Action includes adopting the stipulation framework brought forward in the *Final Programmatic EIS for Geothermal Leasing in the Western United States* for geothermal leasing on the GMUG NFs.

Stipulations proposed for this geothermal lease are consistent with Forest Plan standards, wildlife conservation agreements, FS policy and direction and applicable laws. The lease stipulations are only as restrictive as necessary to protect the resources for which they are applied.

The following descriptions are necessary to understand how stipulations are applied in this analysis.

No Surface Occupancy stipulations are considered a major constraint as they do not allow for surface development. They are used when standard lease terms and conditions, other less restrictive stipulations, and best management practices are insufficient to achieve resource protection objectives.

Controlled Surface Use stipulations allow the agencies to require future activities or development to be modified or relocated from the proposed location if necessary to achieve resource protection that may include special design, operation, mitigation, relocation or reclamation measures.

Timing Limitation stipulations are used to protect resources that are sensitive to disturbance during certain periods. These stipulations are generally applicable to specific areas, seasons and resources. They generally apply to items such as wildlife activities and habitats.

To ensure leasing decisions remain appropriate in the light of continually changing circumstances and new information, the BLM develops and applies lease stipulation waiver, exception or modification (WEM) criteria. A WEM must be specifically approved by the agency if the record shows that circumstances or relative resources values have changed, or that the lessee can demonstrate that operations can be conducted without causing unacceptable effects. Descriptions of WEMs are given below.

Waivers make permanent exceptions from a lease stipulation and it no longer applies anywhere on the lease.

Exceptions are a one-time exception for a particular site within the leasehold; exceptions are determined on a case-by-case basis; stipulation continues to apply to the rest of the leasehold.

Modifications are a change in the provisions of a stipulation either temporarily or for the term of the lease. Depending on the modification, the stipulation may or may not apply to all sites within the leasehold to which the restrictive criteria are applied.

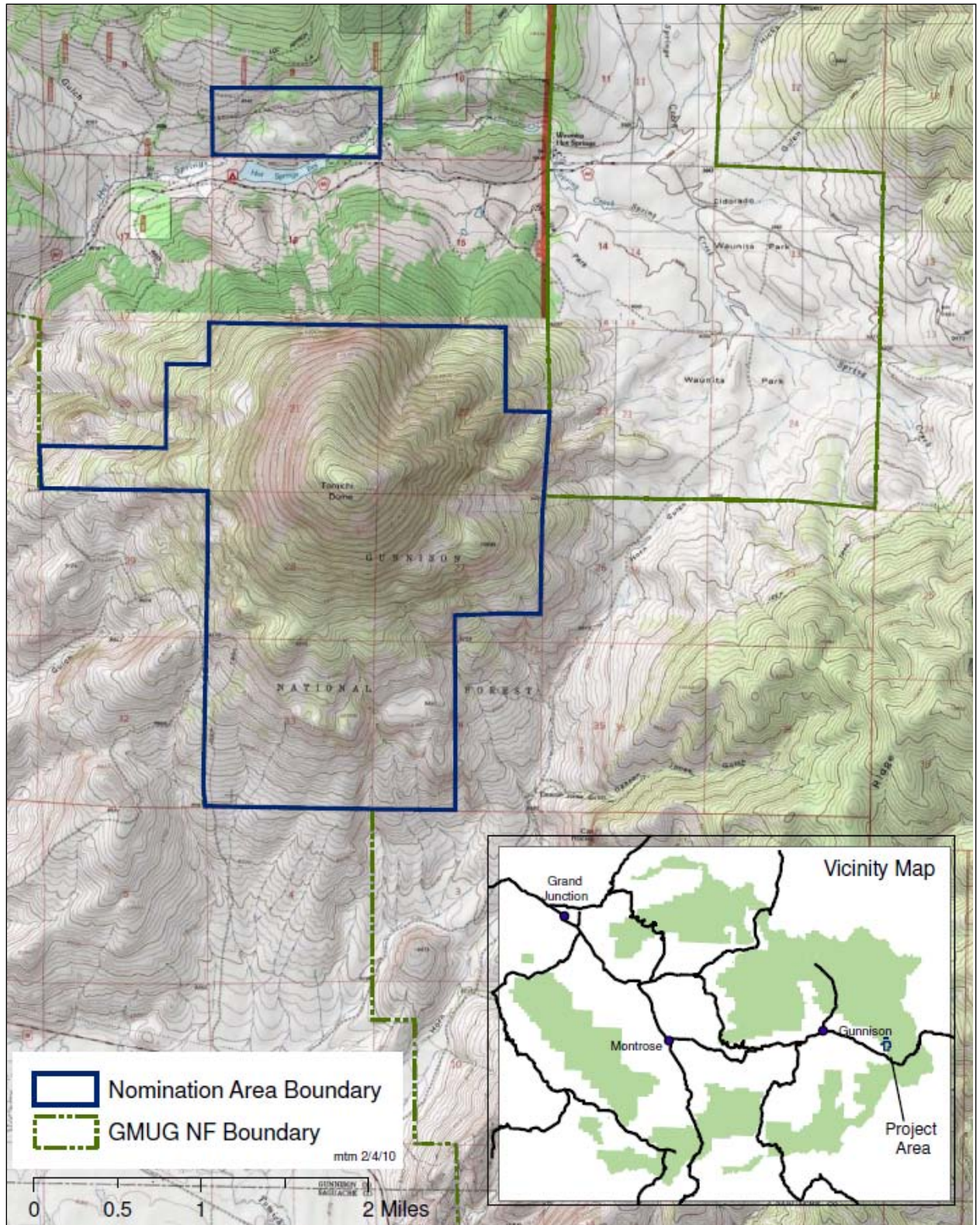


Figure 1. COC-73584 Geothermal Lease Nomination Area

Table 1. Proposed Lease Stipulations

Stipulation	Rationale for stipulation	Available for Waiver, Exception or Modification (WEM)?
Geologic resource		
<u>No Surface Occupancy</u> - High geologic instability &/or slopes >50% &/or very severely erodible soils.	GMUG Forest Plan direction, Consistency with Programmatic EIS, FS Watershed Conservation Practices Handbook and NRCS guidance, for maintaining slope stability	No
<u>Controlled Surface Use</u> - Moderate geological hazards &/or slopes 35-50% &/or severely erodible soils.	GMUG Forest Plan direction, Consistency with Programmatic EIS, FS Watershed Conservation Practices handbook and NRCS guidance, for maintaining slope stability	Yes
Water resources		
<u>No Surface Occupancy</u> - Riparian areas, wetlands, water influence zone (WIZ) and waterbodies, or areas within the 100 year floodplain.	Consistency with Programmatic EIS, FS Watershed Conservation Practices Handbook, GMUG Forest Plan direction for the protection of surface waters.	Yes- for stream crossings
<u>Controlled Surface Use</u> - Stipulation applies between 100 and 500' from feature (riparian areas, wetlands, WIZ, and waterbodies, areas within the 100 year floodplain, or areas with riparian vegetation).	Consistency with Programmatic EIS, FS Watershed Conservation Practices Handbook, Forest Plan for the protection of surface waters and watersheds.	Yes- Topography may allow Exceptions & Modifications

Stipulation	Rationale for stipulation	Available for Waiver, Exception or Modification (WEM)?
Ground Water Resources		
<u>Controlled Surface Use</u> on portion of lease in Section 9, T 49 N, R 4E: No geothermal production or injection wells will be permitted.	FSM 2880, 43 CFR 3250	Yes- if additional geologic and hydro-geologic study demonstrates that such activities will not adversely affect existing thermal features
<u>Controlled Surface Use.</u> A comprehensive geologic and hydrogeologic study, and interpretation that assesses hydraulic relationships in the area, will be required prior to the lessee/operator being approved by the BLM to install any production or injection wells.	FSM 2880, 43 CFR 3250, Programmatic EIS.	FSM 2880, 43 CFR 3250, Programmatic EIS.
<u>BLM stipulation:</u> Monitoring during exploration, development and production activities may be required as directed by the BLM in consultation with the Colorado State Engineer's Office*, and the burden of proof shall be on the lessee, to ensure that extraction of heat from the geothermal resource under this lease is limited to the extent that it must not diminish, beyond applicable natural seasonal fluctuations, the measurable quantity, quality or temperature of any existing allocated water or geothermal resources used by holders of rights to such resources in the Tomichi Dome area and Hot Springs Creek valley. *While compliance with Colorado State Engineer regulations associated with the appropriation of geothermal fluids with respect to the prevention of injury to senior water rights users will likely satisfy this requirement, an issue of material injury may be determined by the relevant Colorado Water Court.	BLM	
<u>BLM stipulation:</u> The lessee/operator must demonstrate to the BLM that they have made a good faith effort to work with the owners of the Upper and Lower Waunita Hot Springs to develop an effective monitoring program. The monitoring program would be designed to	BLM	

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determine if there are any impacts to water quality, quantity, and/or temperature of the Waunita Hot Springs during any exploration, development, and production of the lease.

Wildlife

Controlled Surface Use- In suitable lynx habitat, surface uses must be designed to accommodate the following: winter access will be limited to designated routes; avoid facility construction in primary lynx habitat; tree cutting will be avoided in snowshoe hare habitat; remote monitoring of development sites; new roads will be closed to public motorized use; avoid constructing new roads in lynx habitat; new roads will not be built on ridge tops, saddles, or in areas important for lynx habitat connectivity; situate new roads away from forested stringers; reclamation plans will include measures to promote lynx habitat and provide for effective road closure and decommissioning.

Compliance with Endangered Species Act and Southern Rockies Lynx Amendment.

Yes- in consultation with USFWS. If WEM allowed, then timing limitation would apply.

Timing limitation- In suitable lynx habitat, activities that would increase snow compaction will be prohibited between December 1 and April 15.

Compliance with Southern Rockies Lynx Amendment

No Surface Occupancy- no activities in mapped Gunnison sage grouse habitat within 4.0 miles of known Gunnison sage grouse lek.

Consistency with GSG rangewide conservation plan, BLM's national instruction memo, FSM 2631, and added protection from best available science

No- WEMs will not be considered within 0.6 miles of any known Gunnison sage grouse lek.

Yes-WEMs will be considered between 0.6-4.0 miles from lek. Waiver will only be permitted if it is consistent with GSG rangewide plan and following coordination with

Stipulation	Rationale for stipulation	Available for Waiver, Exception or Modification (WEM)?
		DOW.
<u>Timing Limitation</u> - No construction or drilling activities in mapped Gunnison sage grouse habitat between March 1 and June 30 within 4.0 miles of known Gunnison sage grouse lek. Routine operation and maintenance of production facilities will be restricted to occur between 0900 and 1600 during the above time period.	Consistency with GSG Rangewide Conservation Plan, BLM's national instruction memo and added protection from best available science	Yes-Exceptions and modifications may be allowed to in area 0.6-4.0 miles from lek. Waiver will only be permitted if it is consistent with GSG rangewide plan and following coordination with DOW.
<u>Timing Limitation</u> - Mapped big game winter concentration area (deer and elk)- No new surface disturbing activities December 1-April 15.	Coordination with Colorado Division of Wildlife objectives and protection of private lands	Yes-WEMs may be considered in consultation with DOW.
<u>Timing Limitation</u> - Big game winter concentration area (deer and elk)-no post development site visits outside of the hours of 10:00 am and 3:00 pm (local time) from December 1-April 15.	Coordination with Colorado Division of Wildlife objectives and protection of private lands	Yes-WEMs may be considered in consultation with DOW.
<u>Timing Limitation</u> - Bald eagle winter concentration/foraging area: No construction, drilling or other ground disturbing activities November 15-April 15.	Fulfills requirements of the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act.	Yes-WEMs may be considered in consultation with DOW.
<u>Timing Limitations</u> - FS Sensitive raptors species –no activities except for routine operation and maintenance of production facilities within nest buffers for designated time period. Timing restriction will only be applied to active nests. Bald eagle ½ mile October 15-August 1 Golden eagle ½ mile December 15- July 15	To protect habitat and nest sites for GMUG sensitive raptors. Fulfills requirements of the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act.	Yes-WEMs may be considered in consultation with DOW.

Stipulation	Rationale for stipulation	Available for Waiver, Exception or Modification (WEM)?
Osprey ¼ mile April 1- September 1 Peregrine falcon ¼ mile February 1- September 1 Northern Goshawk ½ mile March 1-September 15		
<p><u>Controlled Surface Use:</u> No new surface occupancy and surface disturbing activities (beyond that which historically occurred in an area) within specified distances of nests and associated nest sites (legal subdivision or other description). Current Region 2 sensitive raptor species known or suspected to occur on the Forest are included below.</p> <p>Bald eagle ½ mile Golden eagle ½ mile Osprey ¼ mile Peregrine falcon ¼ mile Northern Goshawk ½ mile</p> <p>At the time of development, the most recent GMUG sensitive raptor list and associated habitat maps will be reviewed to determine if habitat for one or more raptor species is present. If the habitat is present, inventories will be required at the development stage to determine presence/absence of nest sites in the area.</p>	To protect habitat and nest sites for GMUG sensitive raptors. Fulfills requirements of the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act.	Yes-WEMs may be considered in consultation with DOW.
<u>FS Standard Notice</u> for Lands Under the Jurisdiction of the Department of Agriculture regarding threatened, endangered or special status species.	FSM 2820, compliance with Endangered Species Act and Conservation Agreements	No
<u>BLM Stipulation:</u> The BLM will apply the following stipulation on	BLM Instruction Memorandum	No

Stipulation	Rationale for stipulation	Available for Waiver, Exception or Modification (WEM)?
any leases where threatened, endangered, or other special status species or critical habitat is known or strongly suspected. Additionally, the BLM will provide a separate notification through a lease notice to prospective lessees identifying the particular special status species that are present on the lease parcel offered. "The lease area may now or hereafter contain plants, animals, or their habitats determined to be threatened, endangered, or other special status species. BLM may recommend modifications to exploration and development proposals to further its conservation and management objective to avoid BLM-approved activity that will contribute to a need to list such a species or their habitat. BLM may require modifications to or disapprove proposed activity that is likely to result in jeopardy to the continued existence of a proposed or listed threatened or endangered species or result in the destruction or adverse modification of a designated or proposed critical habitat. BLM will not approve any ground-disturbing activity that may affect any such species or critical habitat until it completes its obligations under applicable requirements of the Endangered Species Act as amended, 16 USC 1531 et seq., including completion of any required procedure for conference or consultation."	No. 2002-174, compliance with Endangered Species Act and Conservation Agreements	

Cultural & Paleontological Resources

BLM stipulation: This lease may be found to contain historic properties and/or resources protected under the National Historic Preservation Act (NHPA), American Indian Religious Freedom Act, Native American Graves Protection and Repatriation Act, Executive Order 13007, or other statutes and executive orders. The BLM will not approve any ground-disturbing activities that may affect any such properties or resources until it completes its obligations under

BLM Instruction Memorandum No. 2005-003, Compliance with National Historic Preservation Act

No

Stipulation	Rationale for stipulation	Available for Waiver, Exception or Modification (WEM)?
applicable requirements of the NHPA and other authorities. The BLM may require modification to exploration or development proposals to protect such properties, or disapprove any activity that is likely to result in adverse effects that cannot be successfully avoided, minimized or mitigated.		
<u>FS Standard Notice</u> for Lands Under the Jurisdiction of the Department of Agriculture Standard lease regarding cultural resources (see Appendix B for full text)	FSM 2820, compliance with National Historic Preservation Act	No
Special Uses		
<u>No Surface Occupancy</u> – Electrical Transmission Line Within 62.5 feet of center on permitted electrical transmission line.	Prevent hazards associated with drilling near powerlines, protect existing easement	Yes – with consultation of easement holder
<u>Controlled Surface Use</u> – Transmission Corridor, within 1,750 feet of centerline of existing line	Consistency with Westwide Transmission Corridor EIS.	Yes – in consultation with other federal agencies such as Department of Energy
Visuals		
<u>Controlled Surface Use</u> - Areas with a Scenery Integrity Objective level of high or moderate	Scenery Management System compliance	Yes- Topography/ vistas may allow Exceptions & Modifications
<u>Recreation</u>		
<u>Controlled Surface Use</u> - Semi-primitive recreation opportunity	Recreation Opportunity Spectrum	Yes

In addition to lease stipulations, during any subsequent exploration, drilling, utilization, or reclamation and abandonment of geothermal activities, the BLM and FS would require project-specific mitigation measures on permits. Best Management Practices (BMPs) are state-of-the-art mitigation measures that may be incorporated into a site-specific permit application by the lessee/operator, or included in the approved use authorization by the BLM as conditions of approval. Because there are no surface disturbing activities involved at the leasing stage, site-specific BMPs or mitigations to further protect surface resources are not included in the Decision Framework. However, the following list of items may be considered in more detail if or when surface disturbing activities are proposed. This list is not all inclusive, but is intended to disclose additional resources the federal and state agencies consider if the area is leased and also represents some of the considerations in the Record of Decision for the Programmatic EIS (Programmatic EIS Appendix B).

- Geotechnical investigations
- Stormwater management
- Groundwater discharge and recharge
- Additional plant and animal surveys such as raptors, sensitive plants, etc. with subsequent avoidance
- Air quality monitoring plan and emissions control
- Noise
- Traffic plans and road design
- Visual resource mitigation or design (colors, lighting, siting features, etc)
- Vegetation removal/ incidental timber harvest
- Construction techniques for roads, pads, pipelines, utility lines
- Noxious weed prevention and control
- Hazardous materials
- Waste management
- Protection of workers and public
- Coordination with grazing permittees
- Interim and final reclamation techniques including recontouring, vegetation management, topsoil management, seeding, erosion control, mulching